University Business Policies and Procedures Manual

2000
RESPONSIBILITY AND ACCOUNTABILITY FOR UNIVERSITY INFORMATION AND TRANSACTIONS

Effective Date: July 1,2004
Subject tu Change Without Notice

1. General

University administrative processes, systems, and forms provide electronic and manual mechanisms for business and administrative functions such as finance, student, student financial aid, human resources, and development. Use of University information and systems is restricted to authorized University business and administrative users. Deans, directors, and department heads will define departmental approval processes and designate individuals in their organizations who are authorized to process business and administrative transactions. This policy defines the specific responsibilities of individuals who request, initiate, approve, and/or review business and administrative transactions and reports. These individuals are accountable for fulfilling the responsibilities defined in this policy.

2. Deans, Directors, and Department Heads

Deans, directors, and department heads are responsible for ensuring designated individuals have attended the necessary training required to effectively and efficiently complete authorized business and/or administrative processes and transactions. Deans, directors, and department heads are accountable for exercising good judgment, upholding ethical standards, and should have internal procedures in place to ensure periodic review of designations and related training.

2.1. Authorizing and Processing Transactions

Each of these two functions, authorizing transactions and processing transactions, carry distinct responsibilities listed below. If the functions are performed by the same person, that individual is accountable for both sets of responsibilities.

2.1.1. Requesters

The requester is the individual who identifies the need for the transaction and authorizes the request to be processed. The requester is responsible for:

- determining the validity and appropriateness of the transaction; and
- evaluating the transaction for compliance with contractual requirements.

This individual will be accountable for fulfilling the above responsibilities, exercising good judgment, and upholding ethical standards.

2.1.2. Initiators

Initiators are individuals who have been authorized by a dean, director, or department head to enter transactions into electronic business or administrative systems and/or prepare paper forms. If the initiator is not the requester of the transaction, the initiator should make sure he or she has a signed authorization to initiate a transaction. In such cases, departments should develop procedures for documenting requests. Initiators are also responsible for:

- ensuring the electronic transaction and/or form is complete and accurate;
- verifying all backup documentation; and
- notifying approvers and requester if a transaction will cause an account to go over budget.

Initiators are accountable for fulfilling the above responsibilities, exercising good judgment, and upholding ethical standards.

2.2. Departmental Approvers

Approvers are individuals designated by deans, directors, or department heads to review and approve electronic transactions and/or forms before they are released for processing. Depending on the type of transaction and the level of risk, there may be more than one individual required to approve a transaction. However, the first-level approver is responsible for:

- conformity with budget;
- verifying the appropriateness of the transaction;and
- compliance with University policies and procedures.

Subsequent approvers are primarily responsible for acceptance of the added risk associated with high dollar and/or risk transactions. Approvers will be accountable for fulfilling the above responsibilities, exercising good judgment, and upholding ethical standards.

3. Central Office Approvers

3.1. Finance

Central finance office approvers are responsible for:

- verifying proper accounting and transaction processing; and
- ensuring compliance with administrative, accounting, and/or purchasing policies and regulations.

Approvers are accountable for fulfilling the above responsibilities, exercising good judgment, and upholding ethical standards.

4. Post Transaction Review

4.1. Finance

It is critical for the financial integrity of the University that administrators and principal investigators responsible for University resources review the cumulative financial picture

for each of their respective funds. Reviewers include financial managers and principal investigators in departments and staff in central administration offices. These individuals are responsible for oversight of transactions

4.1.2. Financial Managers and Principal Investigators

Each department designates organization financial managers which are recorded in the finance system. Financial managers or designees are responsible for a monthly review of the transactions affecting their funds to ensure allowability and appropriateness of transactions, conformity with approved budget, and financial integrity of the fund. If this responsibility is delegated, the delegation must be signed by the cognizant financial manager and kept on file in the department.

4.2. Controller's Office

The Controller's Office is responsible for a periodic review of transactions including trend analysis, internal controls, and review of departmental approval processes.

Reviewers will be accountable for fulfilling the above responsibilities, exercising good judgment, and upholding ethical standards.

5. University Information

All individuals authorized to process, approve, and/or review transactions and reports are responsible for the proper use of any information they view.

6. Sanctions

Individuals who do not demonstrate due care and good judgment in the administration of their duties may be subject to disciplinary action, up to and including, discharge.

Comments may be sent to UBPPM@UNM.edu
http://www.unm.edu/~ubppm

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University Business Policies and Procedures Manual

2400
COST ACCOUNTING STANDARDS

Effective Date: July 15,1998
Subject *to* Change Without Notice

1. General

The U S . Government Office of Management and Budget (OMB) Circular A-21, "Principles for Determining Costs Applicable to Grants, Contracts, and Other Agreements with Educational Institutions" requires the University to comply with applicable cost accounting standards published by the Cost Accounting Standards Board (CASB) and to submit a Disclosure Statement (Form DS-2) to the University's cognizant audit agency. The DS-2 describes the University's cost accounting practices. These cost accounting practices must be followed by all University units, departments, and programs that use University funds.

2. Cost Accounting Standards

Circular A-21 identifies four (4) cost accounting standards that apply to educational institutions,

2.1. Cost Accounting Standard 501

This standard requires that costs be estimated, accumulated, and reported consistently. **A** cost that is included in a contract or grant proposal as a direct cost must be accumulated as a direct charge in the accounting records. The same nile applies to indirect charges.

2.2. Cost Accounting Standard 502

This standard requires that costs incurred for the same purpose be accounted for in the same manner. A department cannot account for such costs in one manner while another department accounts for them differently. Therefore, this standard requires that the University have established cost accounting practices that are applied consistently throughout the campus.

2.3. Cost Accounting Standard 505

This standard requires that unallowable costs be identified and excluded from any costs charged to federal contracts and grants. The University's policies and procedures for complying with this standard are described in **"Accounting for Federally-Defined Allowable and Unallowable Costs" Policy 2410, UBP.**

2.4. Cost Accounting Standard 506

This standard requires that the University's cost accounting period be the same as the University's fiscal year.

3. Disclosure Statement (DS-2)

The University Controller is responsible for submitting a Disclosure Statement (DS-2) to the cognizant agency. The DS-2 discloses the University's cost accounting practices, which must comply with Circular A-21 and applicable cost accounting standards. The Controller is also responsible for maintaining an accurate DS-2 and filing amendments to the DS-2 when disclosed practices are changed to comply with a new or modified standard, or are changed for other reasons. Costs will be disallowed if the University fails to comply with Circular A-21 or fails to consistently follow its established or disclosed cost accounting practices (DS-2) when estimating, accumulating or reporting *the* costs of sponsored agreements.

Comments **may be sent to UBPPM@.UNM.edu**
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University Business Policies and Procedures Manual

2430
COST SHARING ON SPONSORED PROJECTS

Effective Date: July 15, 1998
Revised: 08/01/06
Subject to Change Without Notice

Authorized by Regents' Policy 5.9 "Sponsored Research"

1. General

Cost sharing refers to a portion of a sponsored project or program costs that is paid by the University. Cost sharing can be imposed by a sponsor as a condition of the sponsored award or it can be volunteered by the University. The University Vice President for Research and Economic Development or the University Executive Vice President for Health Sciences will agree to cost sharing only when required by the sponsor or in rare situations when justified by the competitive nature of the award. Cost sharing should be held to a minimum and must adhere to the sponsoring agency's guidelines and comply with this policy.

Cost sharing obligations must be funded from identifiable resources available to the principal investigator, department, school, or center involved. Any indication of cost sharing mentioned in the technical proposal must also be included in the proposal budget. Once a sponsor accepts a proposal containing a cost sharing commitment, it is binding on the University and the sponsoring agency must approve any subsequent changes.

2. Cost Sharing Responsibilities

The primary responsibility for cost sharing lies with the principal investigator, department, unit, college or school.

2.1. Principal Investigator

The principal investigator must notify the chairperson or director of any external requirements for cost sharing. After the chairperson or director identifies funds for the cost sharing requirements, the principal investigator prepares a proposal based on the funding agency's guidelines. The principal investigator is responsible for ensuring cost sharing funds are expended according to the funding agency's guidelines and this policy.

2.2. Department, College, School, Center, or Division

Before a proposal is submitted, the individual with budgetary authority over the funds used for cost sharing must approve the funding in writing. These funds will be transferred to an assigned cost share account at the start of the project.

2.3. Office of Research Services or Health Sciences Pre-award Office

Before the proposal is submitted, the Office of Research Services or Health Sciences Pre-award Office reviews the proposal, supporting documentation, and agency guidelines to:

- ensure all required approvals have been obtained; and
- verify that cost sharing has been correctly reflected in the proposal.

2.4. Contract and Grant Accounting

After the award is received the Contract and Grant Accounting Office:

- transfers assigned funds to the cost share account at the start of the program;
- approves expenditures for the award account and cost share account; and
- reports all project expenditures to the funding agency.

2.5. Financial Services' Office

The Financial Services' Office acts as a liaison with federal and non-federal auditors.

3. Cost Sharing

Cost sharing expenditures are part of the total project and program costs, which include all allowable costs incurred by the University, both direct and indirect, in meeting the objectives of the sponsored project or program. There are two types of cost sharing: mandatory and voluntary. Mandatory cost sharing is cost sharing that is required by the sponsoring agency. Voluntary cost sharing is agreed to by the University in excess of mandatory cost sharing requirements.

3.1. Costs Allowable for Cost Sharing

To qualify as cost sharing, expenditures must:

- be necessary and reasonable for proper and efficient completion of the project or program objectives;
- be verifiable with University records;
- be allowable under applicable cost principles;
- be included in the approved budget when required by the sponsoring agency;
- be incurred for the specific project or program;
- be incurred within the time period of the award;
- not be charged to any other sponsored project or program; and
- not be paid by the federal government under another award, except where authorized by federal statute to be used for cost sharing or matching.

3.2. Typical Types of Cost Sharing Costs

Mandatory and voluntary cost sharing expenditures which meet all of the above criteria can include the following types of costs.

3.2.1. Costs funded by the University from non-sponsored accounts, and certain nonfederal sponsored accounts and not included as cost sharing for any other sponsored project or program.

3.2.2. Cash and third party in-kind contributions (non personnel) not included as contributions for any other federally assisted project or program.

3.2.3. Volunteer or in-kind services provided by external sources such as professional and technical personnel, consultants, and other skilled and unskilled labor if the services are an integral and necessary part of an approved project or program and are required by the award.

3.2.4. Grant-related income included in the approved project/program budget and approved as additional costs by the sponsor.

3.2.5. Matching funds usually involving a University contribution of funds specifically appropriated for or allocated to the project.

3.2.6. Where full indirect costs are not charged to the sponsor, they may be shown on the budget as a cost sharing expense being borne by the University. The sponsoring agency must have allowed the use of unrecovered indirect costs as use for cost sharing purposes.

3.3. Unallowable Costs for Cost Sharing

The following type of expenditures can not be used as contributions to cost sharing.

3.3.1. Unallowable costs as defined in Office of Management and Budget, Circular A-21.

3.3.2. Indirect costs in excess of the University's approved indirect cost rates.

3.3.3. Salary dollars in excess of regulatory salary caps, e.g. NIH and NSF salary caps, when effort expended in contribution of the sponsored award exceeds the amount of effort associated with the salary cap.

3.3.4. Cost overruns (for indirect cost proposal classification, the University considers voluntary cost sharing as departmental research).

4. References

- Office of Management and Budget Circular A-110
- "Uniform Administrative Requirements for Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Nonprofit Organizations"
- Office of Management and Budget Circular A-21
- "Principles for Determining Costs Applicable to Grants, Contracts, and Other Agreements With Educational Institutions"
- 45 Code of Federal Regulations Part 74, Subpart G

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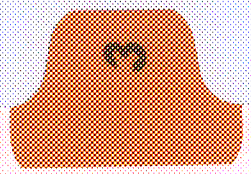
http://www.unm.edu/~ubppm



Network Modeling by LANL

Our design philosophy stems from networks optimized in the process of adaptation in biological systems. The brain represents the most complex of biological system known to us, consisting of about 20 billion interconnected neurons. Sets of neurons form smaller functional networks, which in the language of Marvin Minsky (Minsky, **1986)** form agents capable of performing specific tasks. There is an abundance of local, short-range connections, and they are the structural basis for the development of local functional networks. The agents form societies, and these communicate among themselves to create the marvelous capabilities of the brain. Communication in the brain is energetically expensive (Chklovskii et al., 2002), and the brain architecture reflects the optimization of the circuits to meet the energy limitations and at the same time to effectively perform the functions required by the environment for survival and prosperity.

A small percentage of long-range connections between distant agents greatly reduces the minimal path between any two neurons. This pattern of short-range and long-range connections is optimal for selectively biasing the communication of local and global networks (Chklovskii et al., 2002, Laughlin and Sejnowski, 2003). The basic architectural principles that the brain uses in the long-range connectivity vary little across humans. For example, the onset of the primary brain response to a visual stimulus is 60 ms after the stimulus onset and the variation in that number is related to the distance between the retina and the primary visual cortex, which is at the back of the brain. This is an example of a large-scale connection. The information travels very fast along such connections, and once the information travels to the visual part of the brain, it is processed locally. The local processing is performed by neurons in close proximity, and the connection speed between them is much slower reflecting the information processing speed of the neurons.

The connections need not be faster than the speed limit set by the processing time of the neurons. In the language of modem computers, the motherboard bus doesn't need to be faster than the information processing in the CPU and the RAM. Fortunately for us we possess the mathematical tools for analysis of such architectures (Strogatz, 2001), and we will use these mathematical tools in our network design and assessment of the network operation in different situations.

Agent-based models are mathematical abstractions of distributed systems consisting of many units forming an interconnected web. Each unit's physical properties are mapped onto the mathematical quantities characterizing the agent. In the case of a computer network, the agent can be the facility at a given location. The properties of this facility, like the time of operation, number of people at the facility, type and number of medical equipment, type and number of computers, etc., are mapped onto mathematical variables. The connections between different facilities and the connection throughputs are mapped on the network properties (links) formed by the agents.

A typical simulation involves an initial state of the system and a given scenario. The system is evolved based on an algorithm involving both deterministic and stochastic components. At predetermined intervals of time, the results of the operation of network are analyzed. The C++ programming language is particularly well designed for such applications. In C++ the abstract agent is programmed as a class, and the particular

agents representing the medical facilities are instances of this class. The operations on the agents are the methods defined in this class. C++ is also fast compiled language that allows large number of agents to be efficiently simulated. Using C++ will allow us to simulate networks the size of the United States as well as networks spanning the Earth.

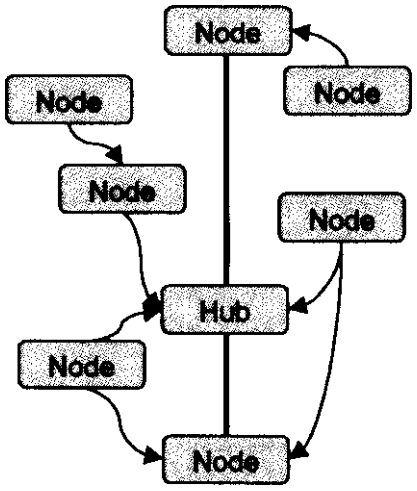
In this proposal we will focus on three "real life" scenarios of great importance to our Nation: Pandemics occurring in the U.S., large-scale forest fires, and severe earthquakes. Each of these scenarios have different disaster relief requirements and will load the network in a different way allowing us to better assess our network design. A major issue in computational studies like this is the validation of the model and the results. We plan to perform small-scale experiments to validate our approach.

Our data analysis will be based on irreducible frequent pattern analysis (IFPA), which has been used to analyze transaction databases. The exchange of information between network nodes can be viewed as information transactions at a given time. Each information exchange forms a bimodal transaction, sending information by the first node and accepting information by the receiving node or nodes. Each of these can be quantified by numbers between 0 and 1, with 0 corresponding to complete failure and 1 to a complete success. Frequent patterns are transfer patterns that occur often in the operation of the network and the irreducible frequent patterns correspond to patterns that cannot be decomposed into a sum of other simpler patterns.

Network Assessment

Any computer network can be represented by a set of nodes and the links between these nodes (Fig. 1). In mathematical terms, the nodes and, links form a graph. Data flows along the links with given speed determined by the physical properties of the transmission lines or communication equipment in the case of microwave or laser transmission. To evaluate the functioning of a complex network, which depends on the multiple human and equipment factors as well as the evolution of a particular real life scenario, we will separate the system into functional components.

First we will evaluate the network capabilities only taking into account the geographical location of the network nodes and the transmission speed between these nodes. We will run a set of communication test patterns to identify the bottlenecks in the network. These bottlenecks are architectural features and we will resolve them by either increasing the band-width of the slow links or by including new links. At this stage we have evaluated the connections between the medical facilities alone.



The next network component is the operation of each node. In our application, each node has its own specific architecture that depends on the medical and computer equipment present at the given location, the number and hours of operation of the medical and computer experts, etc. For each location we will

generate a table reflecting the characteristics of a medical facility and the characteristics of its location (Table 1). Lookup in this table will be used during the simulation of the disaster events at each location. In a given scenario, it is possible that the communication bottlenecks are not in the network capabilities, but in the human acquisition and processing of data. For example if a given location has a large demand for X-ray scans, the transmission speed might be adequate between that location and the target location, but the medical facility might not have the ability to obtain the necessary X-ray scans in **a** short time at the necessary volume. We therefore need to evaluate in each of the three chosen scenarios the data loading speed onto the network at each location. This evaluation will be performed using the data from the location specific table.

Location coordinates	13,187
Human resources	
Equipment type 2	
Time of operation	9-5
Connection nodes with speed	14,165:1Mb/s; 12,123:2kb/s
Number of people serviced by the node	23000

Table 1. Example of a lookup table

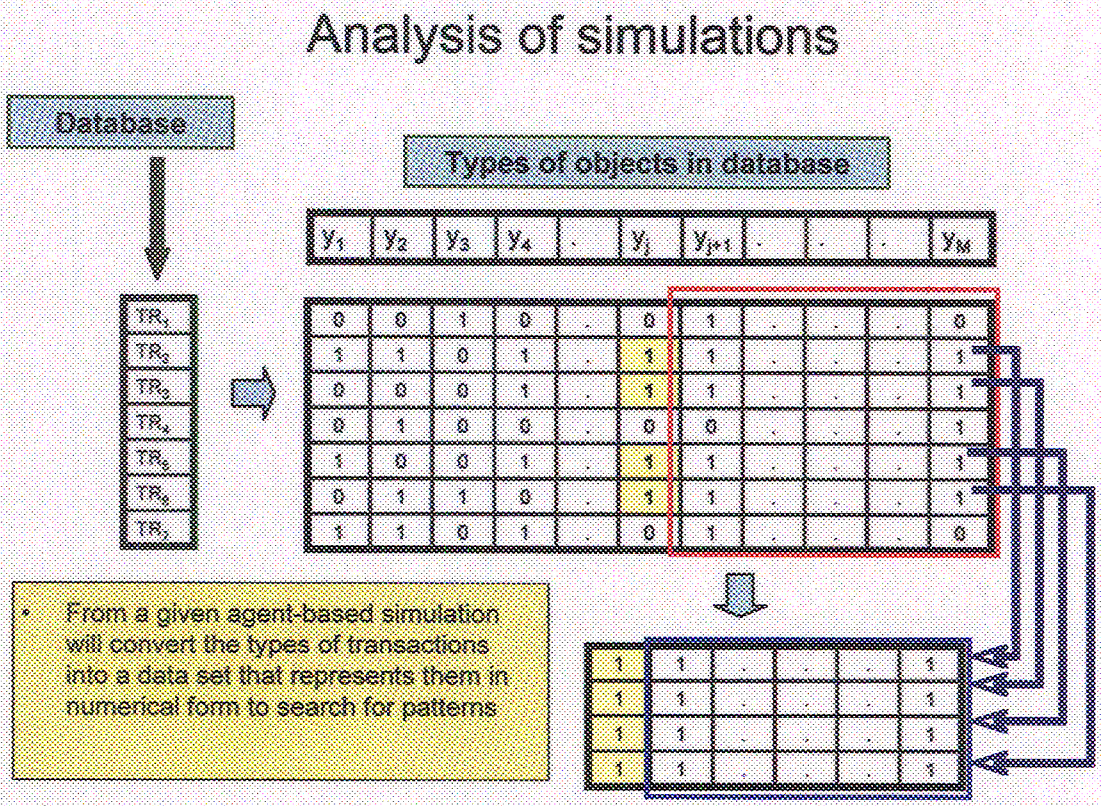
Simulations

Fig. 1 An example of a network in New Mexico.

To optimize the network design, we will implement **a** mathematical model of three different real life scenarios in an emergency response in the participating states and a distant state. Our results will be specific to the local network capabilities, but it can be applied to any other set of states as well as the whole country or countries. The simulation **of** every individual taking part in a given emergency situation with the subjective behavioral specifics of each individual is currently an impossible task. However in an emergency, people behave in a similar manner that can be categorize based on their age, role, location, medical state, etc. This is the strategy used in agent-based simulations of pandemics, and we will adapt that strategy here. The categories of people in the simulations interact with the environment and this interaction determines the dynamics at the medical facilities. Examples of these factors include the state of the roads, time of the day, state of the local communication network, and weather.

Data Analysis

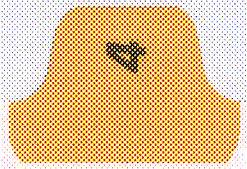
To analyze the data from the simulations, we will use a powerful approach applied in fraud discovery in transaction databases. Each data transmission can be quantified by a real number between zero and one. One corresponds to complete transmission and zero to complete failure. Given patterns of transactions taking place during a small interval of time can be represented by a matrix or a table. A full operation of the network is a set of



matrices representing successive time intervals of the network operation. Each of these matrices can be digitized and mapped onto a vector, which represents a given transaction (Fig. 2). To analyze the patterns of a large number of transactions is very hard, but within the set of all transactions, there is a relatively small subset called irreducible frequent patterns. These cannot be reduced to a sum of other simpler patterns—they are irreducible frequent patterns that characterize the network operation. This is a concept developed at LANL that has proven extremely effective in pattern analysis.

Network Optimization

The analysis of irreducible frequent patterns leads to the identification of bottlenecks, robustness of sub-paths, weaknesses and strengths in the network, etc. The analysis can also tell us how flexible a network needs to be to efficiently accommodate different emergency situations. We will use this information to modify the existing networks and iterate the modeling-analysis-modification procedure to obtain optimal networks, in terms of types of hardware but also connectivity, re-routing and other properties. The results of this iterative process will be quantified by the values of a cost-function. The extrema of this cost function correspond to optimal performance of the network. We will use appropriate optimization methods like simulated annealing, Monte Carlo simulations, and genetic algorithms to find optimal solutions to the network architecture. We expect to find different optimal network configurations for different scenarios. We will choose the network architecture that simultaneously serves all three different rescue efforts in the most optimal manner.



Resources In Place To Support FCC Project

1. **Dale Clark Alverson, M.D.**
   Medical Director - Center for Telehealth
   University of New Mexico

2. **Arthur Bernard Maccabe, Ph.D**
   Office of the CIO
   University of New Mexico

3. **Cbaouki Abdallah, Ph.D**
   Professor & Chair, ECE Department
   University of New Mexico

4. **Krastan B. Blagoev, Ph.D**
   Research Associate Professor
   Electrical & Computing Engineering
   University of New Mexico

5. **Michael Hites, Ph.D**
   Vice President, Planning & Information
   Technology and CIO
   University of New Mexico

6. **Antonio Redondo, Ph.D**
   Acting Director of Theoretical Division
   Los Alamos National Laboratories

7. **Mary Ann Scott, M.M.**
   Associate Director – Center for Telehealth
   University of New Mexico

8. **Moira G. Gerety, MBA**
   Director, IT Services; ITS CIAS
   University of New Mexico

9. **Greg Blackwell, BSEE, CCNA, N+**
   Manager, Telehealth Technology
   Center for Telehealth
   University of New Mexico

10. **Elizabeth A. Krupinski, Ph.D**
    Research Professor
    Radiology & Psychology
    Associate Director Evaluation
    Arizona Telemedicine Program

Resources In Place
To Support FCC Project

TAG Participant BioSketches

11. **Laura Banks, DVM, MPH**
    Associate Director – Center for Disaster Medicine
    University of New Mexico

12. **Mark Carroll, M.D.**
    Director, Telehealth Program
    Indian Health Services
    Arizona

13. **Michael Belgarde, LCDR**
    NAIHS CIO
    Navajo Area Office
    IRM/MIS Department

14. **Wesley Old Coyote**
    Chief Information Officer
    Tucson Area IHS
    TAMS-DIST

15. **Mike Holcomb**
    Associate Director, Network Architecture
    Arizona Telemedicine Program

CURRICULUM VITAE

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Personal:

Date of Birth:	June 29, 1945
Place of Birth:	Detroit, Michigan
Home Address:	312 Laguna SW Albuquerque, NM 87104 (505) 247-8789
Marital Status:	Wife: Jennifer Bean-Aiverson Bean and Associates Inc, Professional Court Reporting
Children:	Melissa (10/29/69), Dale (11/20/70) Heather (2/29/76) Jessica (l/22/87) Arianna (2/14/90)

EDUCATION AND POST GRADUATE TRAINING:

Undergraduate: 1963-1966; 1970
Major-Biology; Minor-Chemistry
Wayne State University
Detroit, Michigan

Doctor of Medicine: 1970-1974
University of Michigan Medical School
Ann Arbor, Michigan
M.D. (cum laude) conferred June, 1974

Internship in Pediatrics: 1974-1975
Butterworth Hospital
Grand Rapids, Michigan

Residency in Pediatrics: 1975-1977
University of Colorado Medical Center
Denver, Colorado

Fellowship Neonatal/Perinatal Medicine 1980-1981
University of Michigan Medical Center
Holden Neonatal Intensive Care Unit
Ann Arbor, Michigan

EDUCATION AND POST GRADUATE TRAINING (continued):

Fellowship Neonatal/Perinatal Medicine 1981-1982
University of New Mexico School of Medicine,
Albuquerque, New Mexico

Medical Informatics MBL/NLM Course Fellow 2002
Marine Biological Laboratory, Woods Hole, MA.
Sponsored by the National Library of Medicine.
Certificate, Spring Course, 2002.

PROFESSIONAL AND ADMINISTRATIVE POSITIONS:

Staff Physician: 1977-1981
Department of Pediatrics
Perinatology
Marquette General Hospital
Marquette, Michigan

Assistant Clinical Professor: 1979-1981
Pediatrics and Human Development
College of Human Medicine
Michigan State University
East Lansing, Michigan

Assistant Professor: 1982-1986
Pediatrics and Ob/Gyn
Division of Neonatology
Department of Pediatrics
University of New Mexico School of Medicine
Albuquerque, New Mexico

Associate Director: 1986-1990
General Clinical Research Center
University of New Mexico School of Medicine
Albuquerque, New Mexico

Associate Professor: 1986-1994
Pediatrics and Ob/Gyn, Division of Neonatology
Department of Pediatrics
University of New Mexico School of Medicine
Albuquerque, New Mexico

Director, Division of Neonatology 1988-1997
University of New Mexico School of Medicine
Albuquerque, New Mexico

Professor: 1994-Present
Pediatrics and Ob/Gyn, Division of Neonatology
Department of Pediatrics
University of New Mexico School of Medicine
Albuquerque, New Mexico

Regents Professor: 1994-Present
University of New Mexico School of Medicine
Albuquerque, New Mexico

PROFESSIONAL AND ADMINISTRATIVE **POSITIONS(continued):**

Medical Director, Center for Telehealth and Cybermedicine Research University of New Mexico School of Medicine Albuquerque, New Mexico	1995-Present

PRIVATE PRACTICE:

Private Pediatrician Marquette, Michigan	1977-1980

MILITARY SERVICE:

United States Air Force (Active Duty) Medical Corp - Medical Laboratory Technician Honorable Discharge	1966-1969 1972

BOARD CERTIFICATION:

National Board of Medical Examiners - Diplomate	1975
Michigan Medical Practice Board	1977
American Board of Pediatrics Diplomate and Board Certified	1980
American Board of Pediatrics Sub-Board of Neonatal-Perinatal Medicine Board Certified	1983
American Board of Pediatrics Recertification (Voluntary) in Pediatrics and Neonatal-Perinatal Medicine,	1989

LICENSURE:

Colorado (National Boards) #19790 (Inactive)	1976
Michigan (Reciprocity) #038042 (Inactive)	1977
New Mexico (National Boards) #81-145	1981

PROFESSIONAL SOCIETIES:

A.O.A. Honorary Medical Society	1973
American Medical Association	1977
American Academy of Pediatrics - Fellow	1981
American Academy of Pediatrics - Section on Perinatal Pediatrics	1980
Western Society for Pediatric Research	1984
Society of Critical Care Medicine	1985
American Institute of Ultrasound in Medicine	1985
New Mexico Pediatric Society	1986
Society for Pediatric Research	1988
Greater Albuquerque Medical Association	1989
European Society for Pediatric Research	1990
Academy of Radio and Television Health Commentators	1992
American Telemedicine Association	1996
American Medical Informatics Association	1996
Association of Telernedicine Service Providers	1997
International Association of Medical Science Educators	2002
Center for Telemedicine and e-Heath Law	2000

PROFESSIONAL SOCIETIES (continued):

Societyfor Simulation in Healthcare 2005

HONORS

Alpha Omega Alpha 1973
University of Michigan
Medical School Chapter

Galens Honorary Medical Society 1972
University of Michigan Medical School

The Lange Award 1974

Teacher of the Year Award 1987
The University of New Mexico Department of Pediatrics

The Glenn T. Peake GCRC Clinical Investigator Award 1988

Awarded Tenure on Faculty, University of New Mexico 1988

Distinguished Achievement Award 1992
American Heart Association, New Mexico Affiliate

Outstanding Media Person, New Mexico Hospital Association 1993

University of New Mexico Regents' Professorship Award 1994-97

UNM HSC Vice Presidents Partnership Award 1999

Honorary Professor, Universidad Tecnologica Equinoccial 2004
Quito, Ecuador

UNM International Excellence Award 2005

Educational Activities:

1. Medical Students

a. MS-1:
   i. Primary Care Curriculum Circuit Rider, Phase I-B (MS-1)
   ii. Lecture to MS-1 class/Clinical Correlation- Biochemistry on Acid-Base Balance

b. MS-2:
   Primary Care Curriculum Tutor, Phase II (MS-2) Cardiovascular, Pulmonary, Renal Block

c. MS-3:
   Preceptor, Department of Pediatrics, MS-3 Pediatric Rotation

d. MS-4:
   Clinical teacher, Neonatology Rotation Elective, MS-4

e. MS 2-4: Research Mentor, Claire Gogal (Class of 2003), *"A* Pilot *Study: Impact of* Video-Phone Technology on the Emotional Well-Being *of* Pediatric Oncology Patients *Who* are Separated from Their Families"

f. MS 3-4: Research Mentor, Rex Baker (Class of 2004), "Project TOUCH: *Reification of* Abstract Concepts as They Apply to Medical Education"

g. MS 2-4: Research Mentor, Matthew Starr

h. MS 2-4: Research Mentor, Tropha Wright

ı. MS 2-4: Research Mentor, Erika Mendoza, Kevin Henry, Mai-Jing Liu

Educational Activities **(cont.):**

1. Medical Students (continued)

   j. MS1-4: Research Mentor, Fatima Gutierrez and Jennifer Pierce
   k. MS1-4 Research Mentor: Summer Nguyen

2. **Resident/Graduate** Students-Fellows
   a. Residents
      i. Attending teaching/training Pediatric, OB/Gyn, Emergency Medicine, Anesthesia residents while on Neonatology Service, both on teaching rounds and via neonatology core curriculum lectures
      ii. Presenter at Pediatric Grand Rounds and other pediatric core didactic lecture
      iii. Lecturer and participant at weekly Perinatal Grand Rounds
      iv. Preceptor for several Pediatric Residents throughout their pediatric residency training

   b. Fellows
      i. Attending teaching/training Neonatology Fellows:
         1. Kristi Watterberg, M.D. - 1983 - 1985
         2. Sydney Swetnam, M.D. - 1984 - 1987
         3. Cristina Carballo, M.D. - 1986-1988
         4. Lyn Peterson, M.D. - 1987-1989
         5. Mary Armon, M.D. - 1988-1990
         6. Randall Nederhoff. M.D. - 1990-1993
         7. Carol Kennon, M.D. - 1991-1994
         8. Pam Gewinner, M.D. - 1992 - 1995
         9. Ned McNamara, M.D. - 1993 – 1996
         10. Connie Anderson, M.D.- 1999- 2002
         11. Kate Stanley, M.D.- 2000-2003
         12. Rebecca Moran. M.D.- 2001-2004
         13. Erika Fernadez, M.D.- 2001-2004
         14. Scott Snyder, M.D.- 2002-2005
         15. Rossana Chang, M.D.- 2002-2005
         16. Christina Chamberlain, MD 2004-2006
         17. Robin Broz, DO, 2005-2006
      ii. Lecturer: Fetal Physiology Seminars
      iii. Presenter and participant at monthly Neonatology Journal Club

3. **Postgraduate/Continuing** Medical Education

   a. Guest Lecturer, University of Heidelberg and the Fraunhofer Institute, Germany, 1988
   b. Guest Lecturer, Riks Hospitalit, Oslo, Norway, 1988
   c. Voluntary recertification in Pediatrics and Neonatal-Perinatal Medicine, American Board of Pediatrics-May 19, 1989
   d. Guest Lecturer. Southwest Research institute, San Antonio, Tx, 1990
   e. Guest lecturer, Cardiovascular Institute, Chinese Academy of Medical Sciences, Beijing, China , Oct 1990
   f. Guest Lecturer, Hospital University of Pennsylvania and Children's Hospital of Philadelphia, Philadelphia, PA 1990
   g. Outreach Education Presentations on behalf of the Division of Neonatology in Las Cruces, Roswell, Clovis, Gallup PHS, Albuquerque Lovelace Medical Center, Presbyterian Hospital, and Saint Joseph Hospital

Educational activities Allied **Health/Public/Miscellaneous** (continued):

4. Allied Health/Public/Miscellaneous

a. Allied Health
   i. Lecturer for Repiratory Therapist Course at TVI on Mechanical Ventilation and RDS in the Newborn
   ii. Teacher and Trainer of Neonatal Nurse Practitioners at UNM via didactic lectures and teaching rounds on the Neonatology Clinical Service
   iii. Lecturer for general nursing regarding newborn care at the "Amazing Newborn" annual conference
   iv. Lecturer at the National Association of Neonatal Nurses Annual Conference, Orlando FLA., 1993

b. Public
   i. Health Commentator NBC affiliate, KOB-TV, nightly news-"For Your Health"
   ii. Lay public presentations on Heart Disease and Cardiovascular Research on behalf of the American Heart Association
   iii Lay public presentations on Health Care Reform for Eastern New Mexico Medical Center Foundation, Roswell, NM and the League of Women Voters, Albuquerque, NM
   iv. Lay public presentations on neonatal-perinatal care issues on behalf of the March of Dimes
   v. Preceptor for lay internship program Greater Albuquerque Medical Association
   vi. Presenter on Neonatology at the National Court Reporters Association National and local Meetings
   vii Preceptor for APS high school students; Career Enrichment Center Medical Internship Program

INVITED EDUCATIONAL LECTURES AND PRESENTATIONS:

Alverson DC, "Reyes Syndrome" 1978
Topics on Neurosurgery and Neuroanesthesia-
A Broad Based Seminar.
Marquette, Michigan.

Alverson DC. Neonatal Asphyxia and Resuscitation" 1979
Third Annual Spring Perinatal Days.
Co-sponsored by Northeastern Perinatal Center, Green Bay,
Wisconsin and Continuing Medical Education Program,
Escanaba. Michigan.

Alverson DC, "Developing a Multi-Disciplinary 1979
Cystic Fibrosis Clinics"
in the Upper Peninsula"
Seminar on Cystic Fibrosis
Marquette, Michigan.

Alverson DC. "Cardiac Output Measurements" 1982
Fourth Annual Pediatric
Cardio-Pulmonary Update
Albuquerque, New Mexico.

Alverson DC, "Noninvasive Measurement of 1982
Cardiac Output in the Newborn"
Perinatology/Neonatology
Ann Arbor, Michigan,

Alverson DC, "Neonatal Resuscitation" and "Newer Ventilatory 1983
Modalities" Fifth Annual Pediatric Cardio-Pulmonary Update
Albuquerque, New Mexico.

Alverson DC, "Lasix and the Immature Neonate" 1984
Sixth Annual Pediatric Cardio-Pulmonary Update
Albuquerque, New Mexico.

Alverson DC, "Noninvasive Cardiac Output Monitoring" 1984
Panel on "Shock in the Infant and Young Child"
13th Annual Critical Care Medicine Symposium
San Francisco, CA.

Alverson DC, "Concepts and Controversies in Perinatal Care" 1984
Program Director
Albuquerque, New Mexico.

Boros S, and Alverson DC: "Mechanical Ventilation in Pediatrics 1985
Newer Techniques"
7th Annual Pediatric Cardio-Pulmonary Update
Albuquerque, New Mexico.

Alverson DC, "Concepts and Controversies in Perinatal Care" 1985
Program Co-director
Albuquerque, New Mexico.

INVITED EDUCATIONAL LECTURES AND **PRESENTATIONS(continued):**

Alverson DC, "Concepts and Controversies in Perinatal Care" 1986
Program Co-director
Albuquerque, New Mexico.

Alverson DC, "Surfactant Replacement Therapy in RDS" 1988
10th Annual Pediatric Cardiopulmonary Update
Albuquerque, New Mexico.

Alverson DC. "High Frequency Ventilation" 1988
Birth, Babies & High Technology
Stockton, California.

Alverson DC. "Noninvasive Measurement of Oxygen Delivery" 1988
Birth, Babies & High Technology
Stockton, California.

Alverson DC, "Oxygen Utilization: review of unique aspects of 1989
oxygen delivery mechanisms in neonates"
Neonatal Hematology: An In Depth Review and
Update for Neonatologists
Washington, DC.

Alverson DC, "Effect of Transfusion on Oxygen Utilization." 1989
Neonatal Hematology: An In Depth Review
and Update for Neonatologists.
Washington, DC.

Alverson DC, "Problems Associated with the Preterm Neonate: 1989
issues in the neonatal period."
Concepts and Controversies in Perinatal Care
Albuquerque, New Mexico.

Alverson DC, "Jet Ventilation - a Worthwhile Technique?" 1989
Fifth Annual Balloon Fiesta Lung Disease Conference
Pulmonary Emergencies from Infancy to Adulthood
Albuquerque, NM.

Alverson DC, "High Frequency (JET) Ventilation 1990
Panacea or Fancy
12th Annual Pediatric Cardiopulmonary Update,
Albuquerque, NM.

Alverson DC. "Update on High Frequency Ventilation and 1990
ECMO Perinatal Care: The Present and the Future
Albuquerque, New Mexico.

Alverson DC, "Doppler Derivation of Cardiac Output 1990
in Neonates & Infants", Laser Doppler Derivation
of Blood Flow" "Computer Applications to
Doppler Derivation of Blood Flow and Hemodynamics"
Guest lecturer at Cardiovascular Institute and
Fu Wai Hospital, Chinese Academy of Medical Sciences
Beijing, China.